

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Appl. No. : 09/978,123  
Applicant(s) : Angel JANEVSKI  
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On: \_\_\_\_\_

By: \_\_\_\_\_

Title: IMAGE EXTRACTION FROM VIDEO CONTENT

**APPEAL BRIEF**

U.S. Patent and Trademark Office  
220 20th Street S.  
Customer Window, Mail Stop **Appeal Brief - Patents**  
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Sir:

In response to the FINAL Office Action dated 11 July 2006, and in support of the Notice of Appeal filed on 6 October 2006, Applicant hereby respectfully submits this Appeal Brief.

**REAL PARTIES IN INTEREST**

Koninklijke Philips Electronics N.V. owns all of the rights in the above-identified U.S. patent application by virtual of an assignment recorded at Reel 012266, Frame 0289.

**RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences related to this application or to any related application, nor will the disposition of this case affect, or be affected by, any other application directly or indirectly.

### **STATUS OF CLAIMS**

Claims 1-2, 4-9, 11-16, and 18-22 all stand rejected.

Claims 3, 10 and 17 all stand as being objected to for depending from a rejected base claim.

Accordingly, the claims on Appeal are claims 1-22.

### **STATUS OF AMENDMENTS**

There are no pending amendments with respect to this application.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention is directed to a video receiver, system and method for selection of programming for recording using a template and a demodulated video field, and a broadcast programming stream including selected broadcast programming to be recorded and the template.<sup>1</sup>

Accordingly, as broadly recited in claim 1, a system (e.g., FIG. 1 – element 100; page 7, lines 11-24) for video content-based selection of programming for recording comprises: a connection (e.g., 103) for receiving broadcast programming (e.g., page 8, lines 16-18); and an image processor (e.g., 102) comparing (e.g., FIG. 3 – step 304) a demodulated field (e.g., FIG. 2 – elements 200, 201) from the received broadcast programming to a template (e.g., 106, 203) defining characteristics of video content desired to be recorded (e.g., page 9, lines 4-6, 13-15) and saving (e.g., FIG. 3 – step 306) the field in response to determining (e.g., FIG. 3 – step 305) at least a threshold level of similarity between the field and the template (e.g., page 8, lines 20-24; page 10, lines 1-3; page 16, lines 5-18).

As broadly recited in claims 2 and 9, the invention further features a template (e.g., 106, 203) defining color characteristics and spatial distribution of

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<sup>1</sup> In the description to follow, citations to various reference numerals, figures, and corresponding text in the specification are provided solely to comply with Patent Office rules. It should be understood that these reference numerals, figures, and text are exemplary in nature, and not in any way limiting of the true scope of the claims. It would therefore be improper to import anything into any of the claims simply on the basis of **exemplary** language that is provided here only under the obligation to satisfy Patent Office rules for maintaining an Appeal.

regions to be compared to a demodulated field (e.g., 200, 201) for determining a level of similarity (e.g., page 10, lines 13-16).

As broadly recited in claim 8, a video receiver (e.g., FIG. 1 – element 100; page 7, lines 11-24) comprises: a connection (e.g., 103) for receiving broadcast programming; a tuner demodulating fields (e.g., 100, 101) from the received broadcast programming (e.g., page 14, lines 1-9; page 16, lines 5-8); nonvolatile storage (e.g., 104) containing one or more templates (e.g., 106, 203) defining characteristics of video content desired to be recorded (e.g., page 9, lines 4-6, 13-15); and an image processor (e.g., 102) comparing a demodulated field (e.g., 100, 101) to a template (e.g., 106, 203) and saving (e.g., FIG. 3 – step 306) the field (e.g., 100, 101; ) in response to determining (e.g., FIG. 3 – step 305) at least a threshold level of similarity between the field and the template (e.g., page 8, lines 20-24; page 10, lines 1-3; page 16, lines 5-18).

As broadly recited in claim 15, a method (e.g., FIG. 3) of video content-based selection of programming for recording comprises: obtaining a field from broadcast programming (e.g., 303; page 16, lines 6-8); comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded (e.g., 304; page 16, lines 8-9); and saving the field (e.g., 306; page 16, lines 11-12) in response to determining at least a threshold level of similarity between the field and the template (e.g., 305; page 16, lines 9-11).

As broadly recited in claim 16, the invention further features comparing the field to a template (e.g., 106, 203) defining color characteristics and spatial distribution of regions to be compared to the demodulated field for determining a level of similarity (e.g., page 10, lines 13-16).

As broadly recited in claim 22, a datastream for use with a video receiver (e.g., FIG. 1 – element 100) comprises: a broadcast programming stream (e.g., signal on line 103) including selected broadcast programming (e.g., 200, 201); and at least one template (e.g., 106, 203) defining characteristics of video content desired to be recorded, wherein the at least one template (e.g., 106, 203) is suitable for being employed by the video receiver (e.g., 100) to select a portion of the broadcast programming stream for recording based upon similarity of a field

(e.g., 200, 201) within the selected portion of the broadcast programming stream to the at least one template (e.g., 106, 203) (e.g., page 11, lines 1-8).

### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The sole grounds of rejection to be reviewed on Appeal the rejection of claims 1-2, 4-9, 11-16, and 18-22 under 35 U.S.C. § 102 over Tajima U.S. patent 6,928,231 ("Tajima").

### **ARGUMENTS**

#### **Claims 1-2, 4-9, 11-16 and 18-22 Are All Patentable Over Tajima**

The FINAL Office Action dated 11 July 2006 rejects claims 1-2, 4-9, 11-16, and 18-22 under 35 U.S.C. § 102 over Tajima U.S. patent 6,928,231 ("Tajima").

Applicant respectfully traverses these rejections for at least the following reasons.

#### **Claim 1**

Among other things, the system of claim 1 includes an image processor that **compares a demodulated field** from the received broadcast programming to a template defining characteristics of video content desired to be recorded, and saves the field in response to determining at least a threshold level of similarity **between the field and the template**.

Applicant respectfully submits that Tajima does not disclose an image processor that performs such functions.

In particular, Applicant respectfully submits that Tajima does compare a demodulated field to anything in order to make a determination whether to store the field or not. Tajima discloses **extracting** a face or an object from a video signal and processing it, for example passing the extracted "face region" through a "face normalizing means 3" to produce a normalized face image 26 which is compared to a normalized face image 51 in a face image database. However, this is not the same as comparing a demodulated **field** from a received broadcast program to a template and determining whether (or not) a threshold similarity exists between the demodulated **field** and the template, which are featured in

claim 1.

For an explanatory example to the Board, and not by way of limitation of the claims, FIGs. 2A-2B illustrate two exemplary demodulated fields from a received broadcast program, and FIG. 2C illustrates an exemplary template against which the fields may be compared.

In contrast to the comparison of a field to a template that is recited in claim 1, and illustrated in the example of FIGs. 2A-C, Tajima discloses a more complicated arrangement that requires feature extraction thus requiring additional signal processing that is not required in the system of claim 1.

In the “*Response to Arguments*” section of the FINAL Office Action, the Examiner states that “*claims 1, 8 and 15 are ‘comprising,’ thus the frames that are output from the television tuner are fields as well.*”

The Examiner seems to be under some misbegotten impression that claim 1 recites something akin to: “*comparing video data comprising a demodulated field from the received broadcast programming to a template . . . .*” But of course, that is **NOT** at all what is recited in claim 1! Indeed, none of the claims 1, 8 or 15 include any language such as “*comprising a demodulated field.*”

For example, the system of claim 1 “comprises” an **image processor**. This image processor **compares a demodulated field** from the received broadcast programming to a template defining characteristics of video content desired to be recorded. Now, by the plain language of claim 1, the claimed system may “comprise” things in addition to an image processor, and the image processor may do things other than compare a demodulated field to a template, but the system of claim 1 must include an image processor **comparing a demodulated field** from the received broadcast programming to a template defining characteristics of video content desired to be recorded (or the equivalent thereto under the Doctrine of Equivalents).

Thus, for Tajima to disclose the system of claim 1, it must disclose an image processor **comparing a demodulated field** from the received broadcast programming to a template defining characteristics of video content desired to be recorded (or the equivalent thereto under the Doctrine of Equivalents). It is not

sufficient to compare something else (e.g., an extracted and processed “normalized face image”) to a template defining characteristics of video content desired to be recorded. The presence of the word “*comprising*” in claim 1 has absolutely no effect on this requirement.

Meanwhile, however, Tajima does not disclose an image processor comparing a **demodulated field** from the received broadcast programming to a template defining characteristics of video content desired to be recorded. For example, FIG. 2 shows that Tajima compares a normalized face image 26, to a normalized face image 51 stored in a face image database. Face detecting means 2 and face normalizing means 3 **extract** a face or an object from a video signal and process it, to produce a normalized face image 26 which is compared to a normalized face image 51 in a face image database. However, this is not the same as comparing a demodulated **field** from a received broadcast program to a template and determining whether (or not) a threshold similarity exists between the demodulated **field** and the template, which are featured in claim 1.

**Nothing in the patent rules or the language of claim 1 permits the Examiner to substitute “extracted object from a video signal” for “demodulated field” when reading claim 1 and determining whether a reference discloses the method of claim 1.**

Also in the “*Response to Arguments*” section, the FINAL Office Action states that col. 5, line 64-col. 7, line 6 of Tajima supposedly discloses determining at least a threshold level of similarity between the **field** and the template. However, Applicant respectfully submits that it is abundantly clear that the cited text instead discloses determining at least a threshold level of similarity between a normalized face image 26 and a normalized face image 51 in a face image database.

A normalized face image 26 is not a field; it is a processed set of video samples.

In summary: (1) Tajima does not compare any demodulated field to a template, but instead compares an object extracted from a video signal to a template; and (2) Tajima does not determine any threshold level of similarity

between a demodulated field and a template.

Accordingly, for at least these reasons Applicant respectfully submits that claim 1 is patentable over Tajima.

Claims 2 and 4-7

Claims 2 and 4-7 depend from claim 1 and are deemed patentable for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Claim 2

Among other things, in the system of claim 2 the template defines color characteristics and spatial distribution of regions to be compared to a demodulated field for determining a level of similarity.

The Examiner claims that such features are disclosed by Tajima somewhere in the very lengthy portion of text at col. 9, lines 45-64 and col. 6 line 38 – col. 7, line 14.

Applicant respectfully submits that the recited features are not mentioned anywhere in the cited text. In particular, for example, the word “color” or its equivalent is completely absent from the cited text.

If the Examiner believes that the cited text actually discloses a template defining color characteristics to be compared against a demodulated field, Applicant respectfully requests that he point out with particularity where such a feature is disclosed. Otherwise, Applicant respectfully requests that the Board reverse the rejection of claim 2.

Claim 8

Among other things, the receiver of claim 8 includes an image processor that compares a demodulated field to a template and saves the field in response to determining at least a threshold level of similarity between the field and the template.

As explained above with respect to claim 1, Tajima does not compare any demodulated field to a template; and also does not determine any threshold level of similarity between a demodulated field and a template.

Accordingly, for at least these reasons Applicant respectfully submits that

claim 8 is patentable over Tajima.

Claims 9 and 11-14

Claims 9 and 11-14 depend from claim 8 and are deemed patentable for at least the reasons set forth above with respect to claim 8. Furthermore, claim 9 recites the same features as recited in claim 2, and is further deemed patentable for at least the additional reasons set forth with respect to claim 2 above.

Claim 15

Among other things, the method of claim 15 includes comparing a field from broadcast programming to a template, and saving the field in response to determining at least a threshold level of similarity between the field and the template.

As explained above with respect to claim 1, Tajima does not compare any demodulated field to a template; and also does not determine any threshold level of similarity between a demodulated field and a template.

Accordingly, for at least these reasons Applicant respectfully submits that claim 15 is patentable over Tajima.

Claims 16 and 18-21

Claims 16 and 18-21 depend from claim 8 and are deemed patentable for at least the reasons set forth above with respect to claim 8, and for the following additional reasons.

Claim 16

Among other things, the method of claim 16 includes comparing the field to a template defining color characteristics and spatial distribution of regions to be compared to the demodulated field for determining a level of similarity.

The Examiner states that claim 16 is “rejected for the reasons as discussed in eth corresponding system claims above.”

Of course there is no system claim which is exactly the same as the method claim 16, but claims 2 and 8 include similar features to those recited in claim 16. The Examiner states that such features are disclosed by Tajima somewhere in the very lengthy portion of text at col. 9, lines 45-64 and col. 6 line 38 – col. 7, line 14.



Applicant respectfully submits that the recited features are not mentioned anywhere in the cited text. In particular, for example, the word “color” or its equivalent is completely absent from the cited text.

If the Examiner believes that the cited text actually discloses a template defining color characteristics to be compared against a demodulated field, Applicant respectfully requests that he point out with particularity where such a feature is disclosed. Otherwise, Applicant respectfully requests that the Board reverse the rejection of claim 16.

#### Claim 22

Among other things, the **datastream** of claim 22 includes: **both**: (1) a broadcast programming stream including selected broadcast programming; **and** (2) at least one template suitable to be used by a receiver to select a portion of the broadcast programming stream for recording based on similarity of a **field** of the broadcast programming stream and the template.

Applicant respectfully submits that Tajima does not disclose any **datastream** that includes **both** a broadcast programming stream **and** at least one template.

In the “*Response to Arguments*” section, the FINAL Office Action states that a datastream is “*simply sequence (sic) of digitally encoded signals representing information also known as a video/audio signal.*”

Applicant respectfully disagrees. The datastream of claim 22 is very clearly recited to include not only “*a audio/video signal*” but **also** at least one **template defining characteristics of video content desired to be recorded**. For example, page 11, lines 1-8 of the present specification describes how image templates 106 may be transmitted to video receiver 100 via an input connection at which video information is received.

The Examiner further states that Tajima discloses at col. 5, line 52-col. 6, line 24 and at col. 11, lines 54-65 a datastream that includes: both: (1) a broadcast programming stream including selected broadcast programming; and (2) at least one template suitable to be used by a receiver to select a portion of the broadcast programming stream for recording based on similarity of a field of the

broadcast programming stream and the template.

Reproduced below is the very lengthy portion of Tajima at col. 5, line 39 - col. 6, line 24 and at col. 11, lines 54-65, cited by the Examiner:

video signal delay means 8. This video signal 1 is a video  
signal outputted from a TV tuner (not shown), or a video 40  
signal outputted from an image taking device such as a video  
camera (not shown), and is generally inputted to a video  
input terminal of a recording apparatus at the time when the  
video signal is recorded. In this, in order to make the  
explanation concise, the signal is described as the video 45  
signal, however, usually the video signal includes an audio  
signal, and its handling is the same when the audio signal is  
included in the video signal. The video signal 1 consists of  
sequential pictures of 30 frames per second, and any of cases  
that the picture is a still picture or a moving picture or a 50  
combination of both pictures can be handled.

The face detecting means 2 detects the size and position  
of a face of a person from the inputted video signal 1. The  
face normalizing means 3 normalizes the face of the person  
in the video signal 1 by using the detected result at the face 55  
detecting means 2, for example, by making the distance  
between pupils of both eyes a predetermined value, and  
outputs a normalized face image 26 to the face identifying  
means 6. The person designating means 4 designates a  
specified desiring person from a face image database 6 on a 60  
display (not shown). Next, a face image of the specified  
person being an inquired person is normalized and a nor-  
malized face image 51 is inputted to the face identifying  
means 6. The face identifying means 6 compares the input-  
ted normalized face image 26 with the inquiring normalized 65  
face image 51 outputted from the face image database 5, and  
detects whether the both normalized face images are con-

point candidates 205, and outputs a face identifying region signal 207. At detecting the feature points, the testing of the feature points can be easily made by storing the differences among the feature points in a table beforehand. For example, at a case of a comparison between feature points, that is, 5 when the end of eye is compared with a pupil in the 2-D spatial frequency, there is no high or low frequencies at the end of eye in the horizontal orientation, but the spatial frequency at the pupil is low in the horizontal orientation. And the spatial frequency at the end of eye is high in the 10 vertical orientation, and the spatial frequency at the pupil is low in the vertical orientation. As mentioned above, the face detecting means 2 detects the positions of parts looking like face, and outputs the face identifying signal 207.

and

Further, at a case that a user is recording a program from a broadcasting station in a video tape recorder (VTR), when 55 a desired face image is detected, the user makes the VTR continue to record the program. And also the user can makes another recording medium such as a hard disk record frames from a few frames before the desired face image appears through a few frames after the desired face image disap- 60 pears.

Moreover, as a recording medium at the present invention, not only a VTR and a digital video disk (DVD)-RAM, and also many kinds of recording media such as a hard disk and

Applicant respectfully submits that it is self-evident that none of this text discloses a datastream that includes: both: (1) a broadcast programming stream including selected broadcast programming; and (2) at least one template suitable to be used by a receiver to select a portion of the broadcast programming stream for recording based on similarity of a field of the broadcast programming stream and the template.

The first paragraph in the cited text merely discloses a video signal that includes video data – but does not disclose that it includes any a template that is

suitable to be used by a receiver to select a portion of the broadcast programming stream for recording based on similarity of a field of the broadcast programming stream and the template.

The second paragraph discloses that a face image extracted from a video signal may be compared to a normalized face image 51 (template??) retrieved from a face image database 6 in memory. Again, there is no data stream that includes: both: (1) a broadcast programming stream including selected broadcast programming; and (2) at least one template suitable to be used by a receiver to select a portion of the broadcast programming stream for recording based on similarity of a field of the broadcast programming stream and the template.

The third paragraph merely disclose that when a desired face image id found in a program, the program may be recorded on a video tape recorder, DVD, hard disk, or other recording media.

Therefore, Applicant respectfully submits that Tajima does not disclose any **datastream** that includes **both** a broadcast programming stream **and** at least one template.

Furthermore, the datastream of claim 22 includes a template that is suitable to be used by a receiver to select a portion of the broadcast programming stream for recording based on similarity of a **field** of the broadcast programming stream and the template. As explained above with respect to claim 1, Tajima does not select a portion of a broadcast programming stream for recording based on similarity of a field of the broadcast programming stream and a template.

Accordingly, for at least these reasons Applicant respectfully submits that claim 22 is patentable over Tajima.

### **CONCLUSION**

For all of the foregoing reasons, Applicant respectfully submits that claims 1-22 are all patentable over the cited prior art. Therefore, Applicant respectfully requests that claims 1-22 be allowed and the application be passed to issue.

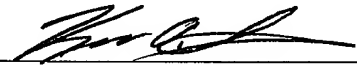
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit

Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees, and any fees under 37 C.F.R. § 41.20.

Respectfully submitted,

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### **CLAIMS APPENDIX**

1. A system for video content-based selection of programming for recording comprising:

    a connection for receiving broadcast programming; and  
    an image processor comparing a demodulated field from the received broadcast programming to a template defining characteristics of video content desired to be recorded and saving the field in response to determining at least a threshold level of similarity between the field and the template.

2. The system as set forth in Claim 1 wherein the template defines color characteristics and spatial distribution of regions to be compared to the demodulated field for determining a level of similarity.

3. The system as set forth in Claim 2 wherein the template includes white regions of expected variability which are ignored in comparing the template to the demodulated field.

4. The system as set forth in Claim 1 wherein the image processor continuously compares demodulated fields for a selected channel to the template.

5. The system as set forth in Claim 1 wherein the image processor compares demodulated fields for a selected channel to the template during a predefined period.

6. The system as set forth in Claim 1 wherein the image processor compares successive demodulated fields to the template and saves all demodulated fields having at least the threshold level of similarity with the template together with associated audio.

7. The system as set forth in Claim 1 wherein the image processor compares demodulated fields for a plurality of channels each to a designated template from one or more templates.

8. A video receiver comprising:  
a connection for receiving broadcast programming;  
a tuner demodulating fields from the received broadcast programming;  
nonvolatile storage containing one or more templates defining characteristics of video content desired to be recorded; and  
an image processor comparing a demodulated field to a template and saving the field in response to determining at least a threshold level of similarity between the field and the template.

9. The video receiver as set forth in Claim 8 wherein the template defines color characteristics and spatial distribution of regions to be compared to the demodulated field for determining a level of similarity.

10. The video receiver as set forth in Claim 9 wherein the template includes white regions of expected variability which are ignored in comparing the template to the demodulated field.

11. The video receiver as set forth in Claim 8 wherein the image processor continuously compares demodulated fields for a selected channel to the template.

12. The video receiver as set forth in Claim 8 wherein the image processor compares demodulated fields for a selected channel to the template during a predefined period.

13. The video receiver as set forth in Claim 8 wherein the image processor compares successive demodulated fields to the template and saves all

demodulated fields having at least the threshold level of similarity with the template together with associated audio.

14. The video receiver as set forth in Claim 8 wherein the image processor compares demodulated fields for a plurality of channels each to a designated template from one or more templates.

15. A method of video content-based selection of programming for recording comprising:

- obtaining a field from broadcast programming;
- comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded; and
- saving the field in response to determining at least a threshold level of similarity between the field and the template.

16. The method as set forth in Claim 15 wherein the step of comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded further comprises:

- comparing the field to a template defining color characteristics and spatial distribution of regions to be compared to the demodulated field for determining a level of similarity.

17. The method as set forth in Claim 16 wherein the step of comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded further comprises:

- comparing the field to a template including white regions of expected variability which are ignored in comparing the template to the demodulated field.

18. The method as set forth in Claim 15 wherein the step of comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded further comprises:



continuously comparing fields for a selected channel to the template.

19. The method as set forth in Claim 15 wherein the step of comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded further comprises:  
comparing fields for a selected channel to the template during a predefined period.

20. The method as set forth in Claim 15 wherein the step of comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded further comprises:

comparing successive fields to the template and saves all fields having at least the threshold level of similarity with the template together with associated audio.

21. The method as set forth in Claim 15 wherein the step of comparing the field from the broadcast programming to a template defining characteristics of video content desired to be recorded further comprises:

comparing fields for a plurality of channels each to a designated template from one or more templates.

22. A datastream for use with a video receiver comprising:

a broadcast programming stream including selected broadcast programming; and

at least one template defining characteristics of video content desired to be recorded, wherein the at least one template is suitable for being employed by the video receiver to select a portion of the broadcast programming stream for recording based upon similarity of a field within the selected portion of the broadcast programming stream to the at least one template.

**EVIDENCE APPENDIX**

{None}

**RELATED PROCEEDINGS APPENDIX**

{None}